

## **REMARKS**

### **Status of the Claims**

Claims 1-5 and 7-15 will be pending in the above-identified application upon entry of the present amendment. Claims 1 and 5 have been amended. Claim 6 is cancelled herein. Support for the recitations in claim 1 can be found in claims 5-6 as originally filed as well as in the present specification, *inter alia*, at pages 10-19. Thus, no new matter has been added. Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

### **Statement of the Substance of the Interview**

Applicants would like to thank the Examiner for his time during the interview on April 2, 2009. Applicants appreciate the courtesies extended to them in this application. In compliance with MPEP 713.04, Applicants submit the following remarks.

The Interview Summary sufficiently summarizes the discussions during the interview. Although an agreement could not be reached, Applicants believe that the claims are now in condition for allowance. Should the Examiner believe that there remains any outstanding issues, Applicants respectfully request that the Examiner contact Applicants' Representative so as to expedite resolution of these outstanding issues, via an Examiner's Amendment or the like.

### **Issues under 35 U.S.C. § 112, first paragraph**

The Examiner has rejected claims 1-15 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner asserts that one of ordinary skill in the art would not be able to determine the materials used for the fluorescent compound or the host in the light emitting layer to construct a device that achieves the claimed external quantum efficiency of 6% or more. The Examiner argues that no reasonably specific description is given of formulations for the fluorescent material or the host material that may be used to achieve the claimed effect. Applicants respectfully traverse.

Applicants respectfully submit that pages 8-34, as noted by the Examiner, provide abundant description of the materials capable of producing the claimed external quantum efficiency. As such, Applicants respectfully submit that the rejection should be removed.

In addition, the Examiner argues that “Compound B” in Examples 1-9 is only given a chemical diagram of the general structure of Compound B but no specific description is given of the materials used for Compound B. The Examiner makes similar remarks regarding “Compound A” since it is given for three of the nine examples. Applicants respectfully traverse.

One of ordinary skill in the art would be able to make or use the claimed invention based on the present specification. More specifically, the chemical structures of Compounds A and B are provided on page 57 of the present specification. These structures provide adequate enablement. Moreover, although the Examiner indicates that the chemical diagram given shows the general structure of Compound B, the chemical diagram actually shows the specific compound. In addition, the Examiner appears to require that Compound A be used in all of the examples. However, no such requirement exists under U.S. patent law. Regardless, Compound A is actually used in six of the nine examples (Examples 1-2, 4, and 6-8). As such, Applicants respectfully submit that the rejection should be removed.

During the interview, the Examiner clarified the outstanding rejection. Specifically, the Examiner asserted that the claims lacked enablement because they did not recite the substrate or host material and because they did not specifically recite the compound emitting fluorescence. Claim 1 has been amended to address these issues. Accordingly, Applicants respectfully submit that these amendments overcome the outstanding rejection and that the rejection should be removed.

### **Issues under 35 U.S.C. § 103**

1) The Examiner has rejected claims 1-4 and 6-15 under 35 U.S.C. § 103(a) as being unpatentable over Akiyama et al. ‘589 (US 2002/0146589) in view of Forrest et al. ‘360 (US 6,310,360).

2) The Examiner has rejected claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Akiyama et al. ‘589 and Forrest et al. ‘360 in view of Thompson et al. ‘219 (US 5,861,219).

Applicants respectfully traverse, and reconsideration and withdrawal of these rejections are respectfully requested.

Legal Standard for Determining Prima Facie Obviousness

MPEP 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

*Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) combining prior art elements according to known methods to yield predictable results;
- (b) simple substitution of one known element for another to obtain predictable results;
- (c) use of known technique to improve similar devices (methods, or products) in the same way;
- (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (e) “obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success
- (f) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(g) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP 2143.03.

#### Distinctions over the Cited References

As amended, independent claim 1 recites that the compound emitting fluorescence is represented by one of the formulae (1)-(5) wherein R<sup>104</sup> and R<sup>109</sup> do not represent a bromine atom.

In stark contrast, the disclosure of Akiyama et al. '589 is limited to very specific compounds emitting fluorescence. Specifically, Akiyama et al. '589 fail to disclose the compounds emitting fluorescence as recited in claim 1. Thus, Akiyama et al. '589 do not disclose each and every aspect of claim 1, from which all other pending claims ultimately depend. Applicants respectfully submit that Forrest et al. '360 and Thompson et al. '219 do not overcome the deficiencies of this reference.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, the combination of Akiyama et al. '589, Forrest et al. '360, and Thompson et al. '219 fails to disclose all of the claim limitations of claim 1, and those claims dependent thereon. Accordingly, the combination of references does not render the present invention obvious. Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejections is respectfully requested.

#### Double Patenting

The Examiner has provisionally rejected claims 1-7 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 15-20 of copending Application No. 11/269,809.

Applicants note that the present application has an earlier filing date than the filing date of the '809 Application. As such, if a provisional obviousness-type double patenting rejection is the only rejection remaining, the Examiner should withdraw the obviousness-type double patenting rejection in the earlier filed application (in this case, the present application) thereby permitting that application to issue without need of a terminal disclaimer (MPEP 804(I)(B)(1)).

### CONCLUSION


A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case clearly indicating that each of claims 1-5 and 7-15 are allowed and patentable under the provisions of title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Reg. No. 58,258 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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